Part II
Guidelines for Intertidal and Subtidal Geoduck Aquaculture

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Existing Guideline Language Aquaculture

- Aquaculture is the culture or farming of food fish, shellfish, or other aquatic plants and animals. This activity is of statewide interest. Properly managed, it can result in long-term over short-term benefit and can protect the resources and ecology of the shoreline. Aquaculture is dependent on the use of the water area and, when consistent with control of pollution and prevention of damage to the environment, is a preferred use of the water area. Local government should consider local ecological conditions and provide limits and conditions to assure appropriate compatible types of aquaculture for the local conditions as necessary to assure no net loss of ecological functions. (WAC 173-26-241(3)(b))

SARC Assignment

- Sec. 4. (1) The shellfish aquaculture regulatory committee is established to, consistent with this section, serve as an advisory body to the department of ecology on regulatory processes and approvals for all current and new shellfish aquaculture activities, and the activities conducted pursuant to RCW 90.58.060, as the activities relate to shellfish. The shellfish aquaculture regulatory committee is advisory in nature, and no vote or action of the committee may overrule existing statutes, regulations, or local ordinances.

SARC Assignment cont.

- (2) The shellfish aquaculture regulatory committee shall develop recommendations as to:
  - (a) A regulatory system or permit process for all current and new shellfish aquaculture projects and activities that integrates all applicable existing local, state, and federal regulations and is efficient both for the regulators and the regulated; and
  - (b) Appropriate guidelines for geoduck aquaculture operations to be included in shoreline master programs under section 5 of this act. When developing the recommendations for guidelines under this subsection, the committee must examine the following:

    (i) Methods for quantifying and reducing marine litter; and

    (ii) Possible landowner notification policies and requirements for establishing new geoduck aquaculture farms.

Ecology Assignment

- Sec. 5. (1) The department of ecology shall develop, by rule, guidelines for the appropriate siting and operation of geoduck aquaculture operations to be included in any master program under this section. The guidelines adopted under this section must be prepared with the advice of the shellfish aquaculture regulatory committee created in section 4 of this act, which shall serve as the advisory committee for the development of the guidelines.

Ecology Assignment cont.

- (2) The guidelines required under this section must be filed for public review and comment no later than six months after the delivery of the final report by the shellfish aquaculture regulatory committee created in section 4 of this act.
- (3) The department of ecology shall update the guidelines required under this section, as necessary, after the completion of the geoduck research by the sea grant program at the University of Washington required under section 1 of this act.

Steps in the Guidelines Process

- SARC makes recommendations to Ecology
- Ecology develops alternatives for public review, incorporating the SARC recommendations
- Following public comment, Ecology develops proposed guidelines as rule language along with necessary rulemaking documents. This may include other updates to the current guidelines.
- Proposed rule language is published in the State Register for comment.
- Following public comment, Ecology publishes a final rulemaking, amending and updating the SMA Guidelines.
- Thereafter, local shoreline programs must follow the guidelines.

Three Major Sections

I. SMP “Zoning” (August SARC)

II. Requirements for the siting and operation of Geoduck Aquaculture projects

III. Required approvals and application process

and

IV. Other guidelines issues

Section II -- Requirements for Geoduck Aquaculture

- Siting (August SARC)
- Preparation of Seed
- Planting
- Predator exclusion devices
- Harvest
- Operations

Preparation of Seed

A. Geoduck stock selection
B. WDFW requirements for preventing disease and parasites
C. Floating or Upland holding pools or facilities (holding seed before planting)
D. Holding pools placed on the intertidal substrate

Preparation of Seed

A. Requirements for geoduck stock selection for planting—relationship to local populations
   - Guideline options
     1. *General statement*
     2. *Defer to WDFW*
     3. *Criteria*

B. Requirements for WDFW certification of Seed—diseases and parasites
   - Guideline options
     1. *General statement*
     2. *Defer to WDFW*
     3. *Criteria*

Preparation of Seed

C. Floating or upland holding pools or facilities
   - Guideline options
     1. *General statement*
     2. *Requirements for mooring permits*
     3. *Upland setback requirements*

D. Holding pools placed on the substrate
   - Guidelines options
     1. *General statement*
     2. *Prohibition*
     3. *Duration limits*
     4. *Limits on area covered*
     5. *Aesthetic requirements*

Planting

- Selecting the area of the site to be planted
  - A. Setbacks from sensitive habitat elements (kelp, eelgrass, other habitat features)
  - B. Setbacks, location on property/site
- Preparing site for planting
  - C. Pre-planting alterations to the site, rocks clearing, grading, etc.
  - D. Pre-planting harvest of wild shellfish
- Other
  - E. Planting density
  - F. Timing of planting

Planting

A. Setbacks from sensitive habitat elements (kelp, eelgrass, etc.)
   - Note also addressed as a siting issue
   - Guidelines Options
     1. *General statement*
     2. *Specific distances from habitat types*

B. Setbacks, location on property/site
   - Guideline options
     1. *General statement*
     2. *Generic setbacks*
     3. *Setbacks based on adjacent use*

Planting

C. Limitations on pre-planting alterations to the site, rock clearing, grading, etc.
   - Guidelines options
     1. *General statement*
     2. *Specific limits on depth of excavation*
     3. *Specific limits on types of equipment.*
     4. *Require that rocks with algae or holdfasts be moved to the side of tubes*
     5. *Minimize removal of rocks*

D. Requirement for pre-planting harvest (Consider Tribal shellfish rights)
   - Guideline options
     1. *General Statement*
     2. *Require agreements with appropriate tribes*

Planting

E. Standards for planting density (covers tube density)
   - Guidelines options
     1. *General statement*
     2. *Generic density limit*
     3. *Basis for site-specific limit?*
     4. *Different for subtidal?*

F. Timing of planting to minimize fish and wildlife effects
   - Guidelines options
     1. *General statement*
     2. *In identified forage fish spawning areas, avoid planting during periods of spawning and incubation*

Predator Exclusion Devices

- Tubes, Nets, Tunnels, Future Designs
  A. Aesthetics
  B. Coverage and Duration

- Debris is covered under Operations

Predator Exclusion Devices

A. Aesthetics of materials used on site

- Guidelines options
  1. *General statement*
  2. *Because planting tubes are least visible if they are not white, require tubes to be a muted color (not white).*
  3. *Require growers to use the best available tubes and nets that minimize visual impacts. Require a permit condition that specifies how growers will demonstrate this.*
  4. *Place tubes in straight rows or rectangular blocks*

Predator Exclusion Devices

B. Restrictions on predator exclusion devices coverage and duration

- Guidelines options
  1. *General statement*
  2. *Growers should remove tubes and nets as soon as they are no longer needed for predator exclusion. Specify how long tubes can be in the ground.*
  3. *Standards should be established for net sizes. Possible recommendation: Require permit conditions related to net sizes. (note bird interactions)*
  4. *Limit portion (percent) of the site covered at any time.*

Harvest

A. Aesthetic and environmental effect of water jets (future methods?)
   - Guidelines Options
     1. *General Statement*
     2. *Standards for water pump design, operation, intakes, pressure*
     3. *Turbidity management during harvest*
     4. *Limit on frequency of harvest (X years?)*
     5. *Limits on noise, if there are no general noise restrictions*
     6. *In identified forage fish spawning areas, avoid harvest during periods of spawning and incubation.*

Operations

A. Notifications to tribes
B. Notifications to adjacent property owners
C. Property marking
D. Public access
E. Access to site
F. Staging of materials and equipment, parking
G. Vessel access and mooring
H. Lights
I. Noise

Continues on next slide

Operations (continued)

J. Hours of operation
K. Debris and litter
L. Site management
M. Spill prevention
N. Other pollution prevention
O. Equipment maintenance
P. Recordkeeping, reporting
Q. Monitoring and adaptive management

Operations

A. Notifying Tribes of operations

- Guidelines Options
  1. *General statement*
  2. *Growers should provide notice to appropriate tribal governments before taking actions of interest to the tribes.*
  3. *Specific list of actions needing notice to Tribes*

Operations

B. Notifying Shoreline Owners of operations

- Guidelines Options
  1. *General statement*
  2. *Growers should provide advance notification to adjacent shoreline owners within a defined radius to explain when operations are going to occur and what noise can be expected.*
  3. *Explain duration of the work, and where to call with complaints*
  4. *Notify nearby shoreline properties five days before harvest (within 300', three parcels either side, ???) or for planting or harvest.*

Operations

C. Site boundary marking or identification

- Guidelines options
  1. *General statement*
  2. *Use casenite (??) markers*
  3. *Flexibility when property owners(?) and grower agree*
  4. *Identify hazard area for boaters*
  5. *Decide if markers are for life of project or not*
  6. *Use durable materials, avoid rebar*
  7. *Consider aesthetic issues and wildlife safety*

Operations

D. Allowing public use/access of growing sites

- Guidelines options
  1. *General statement*
  2. *Growers should be encouraged to allow public access to private tidelands.*
  3. *Growers leasing state aquatic tidelands should allow public access.*

Operations

E. Requirements for worker and equipment access to work on site

- Guidelines Options
  1. *General statement*
  2. *Paths to geoduck growing tracts that cross private land need specific standards to avoid trespass, added noise and litter, or damage to property.*
  3. *Growers who abuse or damage private roads should be responsible for repairs and the road owners should feel free to deny future use of their road.*
  4. *Access across private lands or using private roads only with prior approval by the owner.*
  5. *Limit operations to avoid harm to established eelgrass beds or known forage fish spawning areas.*
  6. *Vessel operations should avoid propeller wash striking eelgrass or other attached vegetation.*

Operations

F. Limits on landside parking and on-shore staging areas, require that they be above OHW

- Guidelines Options
  1. *General statement*
  2. *Growers should have to use designated staging and parking areas to minimize the footprint of impact.*
  3. *Staging and Parking should be located above OHW.*

G. Limits on barge and vessel mooring—number, location, duration.

- Guidelines options
  1. *General statement*
  2. *Geoduck vessels should have defined limits for how long they can be moored at a site.*
  3. *No mooring in less that 18' mllw over submerged vegetation*

Operations

H. Restrictions on lights

- Guidelines Options
  1. *General statement*
  2. *Standards should be established for flood lights, head lamps, and other lighting used for geoduck operations.*
  3. *Growers should use light shields, head lamps, and lighting devices that can be directed downward to minimize impacts.*
  4. *Local jurisdiction should have a general program limiting impacts from lights in residential areas.*

Operations

I. Restrictions on noise

- Guidelines Options
  1. *General statement*
  2. *Noise standards should be established for geoduck operations, with emphasis on equipment and workers. Standards might include locational standards.*
  3. *Committee should look at noise situations that are comparable, and see what we can learn from those situations.*
  4. *State noise standards offer a starting point for discussing noise standards for geoduck operations. Standards may vary depending on whether the area is residential, commercial, or another zone. The current residential noise standard is 55 dBA at 200 yards.*
  5. *Growers should monitor their noise levels and report noise levels.*
  6. *Local jurisdiction should have a general program limiting impacts from lights in residential areas.*

Operations

J. Limits on work on-site (time of day, frequency, weekends)

- Guidelines Options
  1. *General statement*
  2. *Growers should sit down with adjacent shoreline property owners and seek solutions that meet the growers' desire to harvest at certain times and the shoreline homeowners' desire to limit disruptive aquaculture operations.*
  3. *On a case-by-case basis, permits could limit hours of operation.*
  4. *Criteria should be identified that would trigger a limit operational hours. Evaluation criteria might link to noise levels, light levels, debris volumes, distance from residences, and public access.*
  5. *In identified forage fish spawning areas, avoid on-site operations during periods of spawning and incubation*

Operations

K. Requirements for debris management, including patrolling adjacent shorelines.

- Guidelines Options
  1. *General statement*
  2. *Growers should be required to use and maintain equipment and devices so that they do not break free and drift or move away from the site to become litter.*
  3. *Growers should label, brand, or mark their tubes and nets so debris problems can be solved at the source.*
  4. *Establish a standard for reducing, managing, and penalizing net, tube, and fastener litter and debris.*
  5. *Because rubber bands in the environment are a concern, require alternatives to rubber bands or require growers to use attachments that do not easily break and become litter.*
  6. *Growers should recover all litter or debris.*
  7. *Standards should not prevent innovation and better ways to eliminate and reduce litter or debris. Standards should describe the required "performance" or outcome (some call this a "performance standard").*
  8. *Local governments should be a "clearinghouse" for litter reporting that includes alerts to growers of the specific location of litter that has been seen.*

Operations

L. Requirements for site maintenance, worker training

- Guidelines Options
  1. *General statement*
  2. *Bundle materials for later pick-up and to prevent small items from leaving site.*
  3. *Have a sanitation BMP appropriate to the scale of the operation.*
  4. *Remove unneeded materials from the beach as soon as possible.*
  5. *Train workers about importance of taking care of the nearshore environment while working.*
  6. *Other employee training requirements.*

Operations

M. Spill prevention and response requirements
   - Guidelines options
     1. *General statement*
     2. *Require spill prevention and response plan*

N. Air, water and sediment pollution
   - Guidelines options
     1. *General language*
     2. *Specific requirements*
     3. *Prohibition of spraying of pesticides and herbicides*

Operations

O. Equipment maintenance

- Guidelines options
  1. *General statement*
  2. *Specific requirements to maintain equipment to prevent air or water pollution or excessive noise.*

Operations

P. Required recordkeeping and reporting

- Guidelines Options
  1. *General Statement*
  2. *Specific requirements*
     a. *Planting events*
     b. *Placing and removing predator exclusion devices*
     c. *Harvesting*
     d. *Site inspections, debris collection*

Operations

Q. Monitoring, Performance Measures, Adaptive Management

- Guidelines Options
  1. *General Statement*
  2. *Specific performance measures, monitoring and process for taking corrective actions.*

Section III--Required approvals and application process

- Elements of a local site-specific approval process:
  - Document local/state approval of a geoduck aquaculture operation under SMA
  - Provide for public and adjacent landowner notice
  - Allow for enforcement of local SMP requirements
  - Allow adaptive management
  - Ensure compliance with other required approvals
  - Provide for bonding

Approval Process Notifications

- SARC discussed notification options:
  1. *If no shoreline permit is required, then notification of exemption.*
  2. *Initial responsibility for notification should be on local government.*
  3. *Ongoing work/operations have different notification needs.*
  4. *Fact sheet should list activities and timelines.*
  5. *Clarify who initial notification should go to:*
     a. *Adjacent property owners*
     b. *Property owners within 300 feet*
  6. *Record aquaculture permit so future landowners are aware*

Application

- Site information—ownership, boundaries, physical and biological characterization, surrounding uses, historic public access, etc.
- “Farm Plan”, including information on seed, predator exclusion, access, planting and harvest cycle, types and duration of predator exclusion devices, etc.

Approval Options

A. Shoreline Substantial Development Permit
B. Conditional Use Permit
C. Exemption statement
D. Enforcement on a complaint basis
E. Document other approvals
F. Posting a Bond

Approval Options

A. Shoreline Substantial Development Permit

- Guidelines Options
  1. *Call for SDPs in all cases*
  2. *Case-by-case factors that trigger a SDP*

- Note the AGO says depends on site-specific conditions

Approval Options

B. Conditional Use Permit

- Local jurisdictions are required to have a conditional use permit program
- Uses that are not subject to a substantial development permit may be required to get conditional use approvals in some environments or critical areas.
  1. *Development in designated critical saltwater habitat is a conditional use—but Geoduck Aquaculture isn't always development*

Approval Options

C. Approval as Exempt

- Guidelines Options

1. *Local jurisdiction issues a finding that a substantial development permit is not required and the use is consistent with the SMP provided the requirements in the SMP are followed.*
2. *Local jurisdiction issues a finding that a permit is not required provided a list of site-specific requirements are met. Could include a specific duration for the approval.*

Approval Options

D. Enforcement on a compliant basis

- Guidelines Options

1. *If a compliant is filed, the local jurisdiction contacts the grower to ensure that the Shoreline Master Program requirements are followed.*

Approval Options

E. Require documentation of other approvals

- Guideline options
  1. *General statement*
  2. *Require grower to document and maintain certification by Health for shellfish sanitation*
  3. *Require grower to document having a valid Corps permit*

Approval Options

F. Require the posting of a Bond

- Guidelines Options

1. *Legally define when and how bond is called.*
2. *Define activities that would be covered under a bond.*

Note that State lands have specific leasing section that references bonds.

IV--Other Guidelines Issues

- Ecology could consider other changes to the existing guidelines for local shoreline master programs related to geoduck aquaculture:
  1. *Definitions of terms related to aquaculture*
  2. *Requirements for local jurisdictions to maintain information on geoduck aquaculture, provide reports to the public covering locations, acreages, monitoring results, litter statistics, ??*
  3. *Adding predator exclusion devices and holding pools to the Shoreline Modifications section of the guidelines.*